

TRANSLATION OF ANNEXES TO THE
INTERNATIONAL PRELIMINARY EXAMINATION REPORT

1. Pump (1) comprising at least one shield valve controlled by a conveyed medium and which has a valve disk (4) of flexible material, which is clamped in a central region and is movable between an open position and a closed position, in said closed position the valve disk (4) closes at least one valve opening (9), **wherein** extensions (11) project from the valve disk (4) in step form for preventing a sudden flat abutment of the valve disk on a valve abutment surface and/or for limiting a valve opening motion and wherein the valve disk (4) is connected by at least one of the step-shaped extensions (11) to a sealing ring (13) surrounding the valve disk (4) and clamped between two housing portions (5, 6).
- 15 2. Pump according to claim 1, wherein the plurality of extensions (11) project generally uniformly from a peripheral edge of the disk.
3. Pump according to claim 1 or 2, wherein the valve abutment surface (10) has an approximately conical shape.
- 20 4. Pump according to one of claims 1-3, wherein a central region of the valve disk (4) is centered by a pin (7) which passes through a central perforation (8) of the valve disk (4).

5. Pump according to one of claims 1-4, wherein the at least one extension (11) connecting the valve disk (4) and the sealing ring (13) extends at least sectionally transversely to the disk radius and runs in a spiral form.
6. Pump according to one of claims 1-5, wherein at least one gap (14) acting as a passage opening is provided between the sealing ring (13) and the valve disk (4).